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I. BACKGROUND

The U.S. Environmental Protection Agency's (EPA) National Vehicle and Fuel Emissions Laboratory (NVFEL), located in Ann Arbor, Michigan, is an integral part of the EPA's Office of Air and Radiation (OAR), Office of Transportation and Air Quality (OTAQ). OTAQ is split geographically between Ann Arbor, Michigan and Washington, D.C.

The NVFEL is a state-of-the-art facility that provides emissions testing services for motor vehicle, heavy-duty engine, and non-road engine programs in support of federal rulemakings, enforcement actions, and test procedures development. Testing activities include but are not limited to:

- Certifying that vehicles and engines meet federal emissions and fuel economy standards,
- Testing engines for in-use compliance, and
- Analyzing fuels, fuel additives, and exhaust compounds.

The NVFEL is comprised of two buildings located adjacent to one another. The NVFEL's Information Technology (IT) infrastructure is comprised of two distinct networks that shall be supported under this Task Order: the Program Management Network (PMN), and the Laboratory Network System (LNS). The LNS is not connected to any external EPA network (including the PMN) or the Internet. Please see Appendix C for more information about the LNS and the PMN.

II. SCOPE AND OBJECTIVES

This Statement of Work (SOW) outlines the IT and telecommunications support services required by the Information Management Center (IMC). The IMC is a center within OTAQ's Testing and Advanced Technology Division (TATD) at the NVFEL. IMC serves as the IT liaison with the NVFEL user community.

The Contractor shall provide all labor, supervision, and services necessary to perform on-site IT environment support services to the NVFEL as identified in this SOW. Support shall include the following base tasks:

- Task 1: Agency Architecture Support
- Task 2: Desktop Support for IMC-LNS Workstations
- Task 3: LNS Services Assistance and Support
- Task 4: Voice and Video Telecommunication Support
- Task 5: Cabling Support
- Task 6: Service Desk Support
- Task 7: Database Administrator Support
- Task 8: IT Security Support
- Task 9: Lotus Notes Database Administration Support
- Task 10: Information Management Center (IMC) Inventory Support
- Task 11: Technical Writing and Communications
- Task 12: Software Development (Cost-Reimbursement)
- Task 13: Engineering/Solution Development Services (Cost-Reimbursement)

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Other Direct Costs

Additionally, the Contractor shall procure tools, equipment, hardware, software, and other commodities such as licenses, maintenance, etc. for IMC (hereinafter referred to as IMC-LNS equipment) if integral to and necessary for IT services. This ancillary support shall be covered under the Other Direct Costs (ODCs) portion of the Task Order.

Over the past few years, the EPA has undergone consolidation of desktop IT support services under another contract, called EZTech. In addition to providing laptops and other equipment for use by EPA employees, the EZTech contractor performs Tier 1 service desk functions (i.e., gathering customer information and basic troubleshooting), and desktop support functions for all EZTech equipment. The Contractor under this Task Order shall cooperate with the EZTech contractor and adapt scheduling and performance of contract activities to not interfere with EZTech contractor activities. It is possible that EZTech may need to broker some work tickets to the Contractor for resolution; conversely, the Contractor may need to broker some work tickets to EZTech, as well.

Note that IMC-LNS Workstations are laboratory/scientific/modeling workstations that are specific to IMC and do not include desktop equipment from external IT contracts, e.g., EZTech.

Specific information about the architecture to be supported and number of users on each network is provided in Appendix C to this SOW. Throughout the duration of this Task Order, some assets identified in Appendix C will be removed and new assets added as part of normal life-cycle management, or due to technology upgrades. Additionally, the number of assets to be maintained by the Contractor in any given category of equipment (i.e., IMC-LNS workstations, monitors, printers, servers, scanners, etc.) may increase by up to 10%. The exception is video teleconferencing (VTC) units, including peripheral equipment (i.e., VTC codecs, VTC cameras, VTC monitors, projectors, etc.) and related cabling, which may increase by up to 30%. Although equipment brands, model numbers, serial numbers, etc., will change over time as part of the normal equipment life cycle, as long as the equipment count increase thresholds described in this paragraph are not exceeded, the Contractor shall continue to provide maintenance without additional cost to the EPA.

The IT support functions under this Task Order are dynamic, not static, in nature. Accordingly, it is expected that the Contractor shall implement upgraded, changed, or new technologies, as well as changes to data collection and data maintenance, and work processes during the Task Order period of performance, without additional cost to the Government. Such changes shall be accomplished within the purview of the “Changes” clause of the Task Order.

The following are operating systems and equipment essential to current and legacy test systems to be maintained under this SOW:

IT Architecture Overview

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- Windows 7 Desktops
- Red Hat Linux Web servers
- Linux CentOS Servers
- Windows 2008 application servers
- Windows 2012 application servers
- EsXi Virtual Servers
- Terminal Servers
- FileMaker Pro Database Server
- Lotus Domino/Notes Email
- Symantec Backup Exec
- Cisco Switched Ethernet environment (locally managed)
- Cisco routers for WAN connections (not locally managed)
- Servers include both stand alone, and virtual servers
- Successors to the above listed operating systems and equipment

Support for the above systems and equipment shall extend to all future versions of the existing software on these systems and equipment.

III. TASK REQUIREMENTS

Task 1. Enterprise Architecture Support

The Contractor shall provide assistance, recommendations, analysis, troubleshooting, integration, installation, operations, maintenance, documentation, and administration for assigned IMC architecture support, including:

- Program Management Network (PMN) Network Services
- Physical Server Management (installation, management, administration, configuration, implementation, maintenance, and removal of servers)
- Virtual Server Management (monitor and manage virtual server multi-host load balancing, resource allocation and failover)
- Backup and restoration of data on the PMN servers
- Access management
- Capacity management
- Storage Area Network (SAN) management
- Configuration management
- Patch management
- Change management
- Coordination with network administrators in other offices and workgroups
- Anti-Virus Management Software Support of servers and desktops using Agency-approved virus protection software to include the performance of weekly virus scans of supported servers and desktops

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- Warehouse delivery tracking system for IMC-LNS IT equipment and software
- Services support for:
 - Oracle and MSSQL
 - Microsoft Windows Servers
 - Red Hat Linux
 - Linux CentOS
 - Secure wireless network
 - DSL modem and DSL w/wireless

1a. PMN Network Services

The Contractor shall:

- Operate, assist, maintain, and support the PMN, per EPA and/or IMC-defined processes and procedures. Operation shall include EPA and/or IMC-defined PMN equipment throughout NVFEL and in NVFEL Data Centers. The Contractor shall install hardware per EPA and/or IMC guidelines. The Contractor shall respond to all EPA/IMC defined alerts, with support being provided as defined by an EPA and/or IMC work schedule. In addition, support must be available upon request outside the defined work schedule to avoid conflict with user operation and to support continuity of operations.
- Perform scheduled preventative as well as remedial maintenance functions, in accordance with equipment specifications for PMN equipment as specified. Procedures may include use of third-party vendors under warranty and license agreements.
- Execute a Beginning-of-Day System Readiness Checklist each morning at a time specified by the EPA COR before the PMN begins scheduled production and provide the results electronically to the EPA COR and other IMC staff per the EPA COR's direction.
- Gather routine system health data and provide a statistical weekly summary to the EPA COR and other IMC staff per the EPA COR's direction and per EPA and/or IMC guidelines.
- Maintain a complete record of equipment malfunctions and the various data management logs in accordance with best industry practices and/or IMC-defined practices. Records shall include, but are not limited to, the following system logs:
 - Console event log (recording restarts, shutdowns, changes, etc.)
 - System backup log
 - Equipment malfunction and repair log (includes date, time, name of individual(s) performing the maintenance, name of escort if one was necessary, description of maintenance performed, nature of problem, time of service call placement, time of completion and repair, and list of equipment removed or replaced, including identification numbers, if applicable)
 - Security log (includes failed logons to the system)

Copies of these logs shall be maintained in either hardcopy form, stored in a secure area in close proximity to the associated server room, or in electronic form located on the designated PMN servers. All logs shall be made available for periodic review to the EPA technical management responsible for the equipment/system and the EPA COR.

- Maintain an organized reference library of all the software, manuals, and guides necessary

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for operation of the data centers. All hard media is to be maintained until the EPA COR approves disposal. No software is to be implemented without prior approval from the EPA COR.

1b. Server Support

The Contractor shall:

- Provide installation and maintenance support for all EPA servers as specified by the EPA COR.
- Support all guest operating systems and servers installed on VMWare hosts, analyze systems response and provide monthly system performance metrics.
- Recommend, and upon the EPA COR's approval, make changes to the system configuration to provide the best possible user response from the virtual server system.
- Install, assemble, and remove server systems as required, configuring systems to Agency required configurations and standards, and coordinating disposal of unneeded or unusable equipment with EPA staff.
- Operate, administer, and maintain hardware, specified software, and configuration of all server and/or workstation platforms according to Agency Standard Configuration Documents (SCDs).
- Document the configuration of all maintained systems. Documentation should include details of how the system was set up (i.e., using Agency SCDs), and if there are any special settings that were configured based on applications, etc.
- Troubleshoot hardware and operating system issues, correct problems, rebuild systems, perform systems maintenance, as well as daily operational administration, monitor, and optimize server performance, maintain server standard configuration documentation.
- Provide reports upon request representing the status and configuration of support servers.
- Maintain a log of all problems and corrective actions that were taken.
- Maintain all records related to operation of all server systems as applicable.

Records shall include at least the following system logs:

- Console event logs (recording restarts, shutdowns, changes, etc.)
- System backup logs
- Equipment malfunction and repair logs (includes date, time, name of individual(s) performing the maintenance, name of escort if one was necessary, description of maintenance performed, nature of problem, time of service call placement, time of completion of repair, and list of equipment removed or replaced, including identification numbers, if applicable)
- Security logs (includes failed logons to the system)

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Copies of these logs shall be maintained in either hardcopy form, stored in a secure area in close proximity to the associated server room, or in electronic form located on the associated LAN servers. All logs shall be made available for review by the EPA COR and/or the IMC Director upon request.

- Check vendor support sites for installed software on servers for the latest revision and security patches for all supported areas specified by the EPA and/or IMC, in addition to complying with the EPA Computer Security Incident Response Capability (CSIRC) patching and incident reporting processes. After downloading updates, the Contractor shall test them prior to implementation on the PMN (when possible), without compromising the integrity of the current system software; while maintaining system reliability, availability, and performance.

To ensure availability to the user community, the Contractor shall check the status of all servers before the core hours of 6:00 AM – 6:00 PM each business day (excluding weekends and holidays), and remediate if necessary to ensure production during core hours.

The Contractor shall perform and observe all National Institute of Standards and Technology (NIST) and Agency Information Security Directives, as well as ensure virus protection pattern files are distributed as they are received.

IP address activity will be maintained in the designated EPA or IMC website. All addresses assigned through Dynamic Host Configuration Protocol (DHCP), and all static IP addresses, are available through the website. Requests for static IP addresses received by the Contractor for servers, printers, or workstations shall first be sent for approval to the EPA COR, and, once approved, the Contractor shall then submit the request through the designated website system for issuance of the IP address.

1c. PMN Server Backups

The Contractor shall monitor, perform, and maintain central data management functions for all devices specified by the EPA using the most up-to-date Symantec Backup Exec or another backup software solution the EPA may recommend. The Contractor shall maintain backup schedules, ensure backups start and complete successfully, perform emergency restores upon authorization from the EPA COR, properly label and store backup media in the designated storage vault in accordance with TATD/IMC procedures, and maintain central data backup servers, equipment, and operating system. Additionally, the Contractor shall inventory materials in the storage vault, and make additions/deletions to the inventory according to backup management procedures.

The Contractor shall provide full and incremental backups to approved media, all data sets that have been changed or added on a daily basis, on all designated PMN devices, such as Windows servers, Microsoft Systems, Lotus Notes servers, Linux Systems, Oracle servers, and other IMC-chosen operating systems as needed by the EPA and/or IMC.

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The Contractor shall provide backups to IMC's disk-based virtualized backup system and to other direct access storage device (DASD) volumes in accordance with an established IMC schedule or as directed by the EPA COR.

The Contractor shall verify and ensure the integrity of backed-up data. The Contractor shall restore random sets of data specified by the EPA, including a full system restore of an IMC selected device, once a month to ensure backup reliability. The Contractor shall restore data sets from media when requested by the EPA to provide evidence that restores can be successfully performed per EPA guidelines. The Contractor will remedy any deficiency that results in not being able to successfully restore data from media, including media stored off-site.

1d. Disaster Recovery and Continuity of Operations (COOP)

The Contractor shall research, analyze, plan, and document computer and telecommunications systems security and disaster planning, preparation, and implementation activities. The Contractor shall analyze, provide operations, and/or develop and maintain plans related to continuity of operations (COOP), contingency planning, disaster recovery, systems security, and security certifications and security awareness training, to include all local telecommunications COOP needs and considerations. The Contractor shall participate in and provide technical support for all COOP events, including, but not limited to, COOP drills, and planning.

The Contractor shall provide disaster recovery assistance to the EPA Ann Arbor in order to minimize down time as a result of equipment or peripheral failure. To ensure proficiency, the Contractor shall perform periodic disaster recovery drills in accordance with IMC-approved plans.

As directed by the EPA COR, the Contractor shall update essential COOP equipment monthly with the most recent patches and ensure that essential COOP equipment is ready, including ensuring all batteries are fully charged.

1e. Maintenance, Maintenance Agreements and Warranties

The NVFEL standard maintenance window for all equipment covered under this SOW is Friday's from 8:00 PM. to 12:00 AM. Maintenance occurring outside that window must be scheduled at least five (5) business days in advance and approved by the EPA COR. This policy excludes emergency maintenance, although the EPA COR shall be notified in advance and/or shall notify the Contractor in advance, when possible, of emergency maintenance to coordinate scheduling. There may be times that advance scheduling will not be possible due to time constraints and/or the seriousness of the situation, as determined by the EPA COR; in those instances, the Contractor shall still be required to provide emergency support to address the situation(s), through resolution.

The Contractor shall record all service requests in an approved tracking system that allows for

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escalation and workload reporting.

The Contractor shall notify the EPA COR at least 90 days before the expiration of any warranty on equipment or maintenance agreements to ensure maintenance and service agreements remain in place where needed. This shall include hardware and software maintenance tasks, including installation of upgrades and new releases.

1f. PMN Local Area Network (LAN) Administrator Support

The Contractor shall assist and support the NVFEL LAN Administrator(s) on the NVFEL LAN. This support shall consist of:

- Creating/deleting user accounts,
- Assisting with installation and maintenance of network-based software,
- Troubleshooting end-user problems,
- Establishing and maintaining user rights/access control lists (ACLs), and
- Troubleshooting file server problems.

The Contractor shall be required to provide technical assistance to the EPA LAN administrators and other NVFEL support contractors in order to resolve network or end-user problems.

The Contractor shall monitor the various hardware components of the LAN equipment, investigate system problems, and recommend, or as appropriate, initiate corrective actions, including repair and/or replacement of the malfunctioning component per EPA direction. The EPA will procure the replacement parts where appropriate, and the Contractor shall make repairs. In certain situations, replacement parts shall be procured by the Contractor via Other Direct Costs (ODC) under the Task Order.

The Contractor shall ensure that network operating systems, standard hardware and software configurations, network client software, and other network administrative software are maintained and executable on the file servers and workstations. The most recently approved Agency architecture version shall be installed on all LANs. The Contractor shall report problems and potential problems relative to LAN activity, including, but not limited to, speed and performance.

The Contractor shall ensure LAN availability by implementing the most appropriate and funded fault tolerance (transaction tracking, disk mirroring, and disk duplexing) per EPA COR approval. This support could include maintenance, as well as the purchase and installation of parts.

The Contractor shall perform setup, installation, configuration, operation, and maintenance for peak performance, as well as test and repair LAN servers and work stations (Microsoft and Linux), as directed by the EPA COR. The Contractor shall support software residing on the servers, associated equipment, and their components, as specified by the EPA. The Contractor shall support fax machines, scanners and laboratory printers, as directed by the EPA COR.

The Contractor shall recommend and implement EPA-approved enhancements to prevent performance

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problems, including maintaining existing and planned LAN network interface cards, LAN protocols, LAN server software and hardware systems, and LAN topologies and operating systems, only when requested by the EPA.

1g. Active Directory Support and Architecture

The Contractor shall assist and support the EPA's Active Directory (AD) environment. Some of this work shall include creating Active Directory Accounts, creating home directories, creating share drives, creating printer objects, and creating computer objects. The Contractor shall also manage file and folder permissions, as directed by the EPA COR. The Contractor shall assist EPA staff in monitoring different aspects of the AD environment, as directed by the EPA COR.

The EPA also requires support designing fault tolerance and redundancy in AD architecture. This design should ensure complete recovery capability in the event of a fire or natural disaster as well as the design of IMC's defined de-militarized zones (DMZs)¹, trusts between domains, etc.

1h. Hosted Application Support

The Contractor shall install and maintain applications on PMN servers as defined in the EPA Table of Applications. Support shall include troubleshooting inter-operability issues with other EPA standard applications, maintaining and upgrading the host hardware, and recommending or implementing backup solutions.

1i. Server and Server Backup Architecture and Design

The Contractor shall propose a plan to back up any device on the PMN and/or LNS utilizing a centralized backup solution. The plan must incorporate a complete backup lifecycle management strategy, including but not limited to: Offsite backup storage, bare metal backups, incremental backups, live database backup, backup retention policy development, data archiving, vendor support contract maintenance, vaulting services, and used media disposal.

The Contractor shall also propose a design for fully redundant virtual server architecture to provide optimum performance and availability for both PMN and LNS operations. This architecture shall include a new virtual development environment for the PMN and the LNS to incorporate long term maintenance, upgrade, and a plan to dispose of NVFEL computer equipment that is at the end-of-life, (EOL), i.e., the vendor no longer provides support for the equipment or the equipment is discontinued.

Additional requirements for PMN and LNS engineering and solutions architecture may arise, which will require the Contractor to evaluate network and infrastructure systems, identify, and propose solutions to the EPA.

1j. Storage Area Network (SAN) Management Support

¹ A de-militarized zone, or "DMZ", is a special local network configuration designed to securely expose the organization's public-facing services to an untrusted network (e.g., the Internet). The purpose of a DMZ is to add an additional layer of security to the organization's local area network (LAN), as the external network-node can access only what is exposed to the DMZ. The rest of the network is firewalled.

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The current Ann Arbor storage infrastructure is a mixture of different vendor systems (e.g., FalconStor, Compellent, IPStor, Qlogic). The Contractor shall provide assistance in the design, management, and support of the Ann Arbor SAN infrastructure, including firmware upgrades, patching, monitoring, and expansion.

In addition, the Contractor shall provide the following services in support of the Ann Arbor SAN:

- Optimization of the SAN environment to maximize efficiency, performance, and cost for the EPA.
- Vendor maintenance contract management to ensure vendor maintenance is maintained and performed as described in the maintenance contracts, and minimizes risk and downtime for the EPA.
- Procedures for emergency escalation.
- Staff attendance at vendor training to ensure that Contractor staff are current with industry standards and technology.

Task 2. Desktop Support for IMC-LNS Workstations

The Contractor shall provide Tier 1 and Tier 2 help desk support for IMC-LNS equipment. In addition, the Contractor, under this SOW, shall cooperate with the EZTech Contractor, as necessary, to provide needed services that have been brokered to EZTech under this SOW. Furthermore, the scheduling and performance of Task Order activities shall not interfere with non-IMC Contractor activities. Specific information about the number of staff by network, and IMC-LNS hardware and software to be supported across the NVFEL campus is provided in Appendix C.

The Contractor shall develop and install the Agency standard desktop image with FDCC settings (or its successor) on IMC-LNS computers. Deviation from the standard image shall be approved in writing by the IMC Center Director.

2a. Antivirus Support

The latest Agency-approved Antivirus software shall be installed on all IMC-LNS workstations per Agency and/or IMC instructions. The current software in use is Symantec Endpoint Protection (SEP). The Contractor shall also monitor the SEP console for threats and respond per Agency requirements. The Contractor shall monitor the SEP Console and verify that pattern files have been successfully distributed to all managed machines and the pattern file stays up to date. The Contractor shall troubleshoot antivirus software issues and work with NVFEL Antivirus Administrator(s) for escalation issues.

NOTE: Servers are included, so Anti-Virus Support shall be provided for them as well.

2b. Encryption Software

The latest Agency-approved encryption software shall be installed on IMC-LNS workstations per IMC instructions. The current software in use is PointSec. The Contractor shall troubleshoot any PointSec issues

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and decrypt hard drives as necessary if problems occur.

Task 3. LNS Services Assistance and Support

3a. General LNS Information

The purpose of this Task is to provide assistance, routine maintenance, monitoring, and information processing support for the information systems that are part of the Laboratory Computer System (LCS), and to provide related additional support to the LNS. The LCS information systems include vehicle information, vehicle test data, engine information, engine test data, and equipment calibration. The nature, number, and names of these systems may change as the LCS matures and grows in the future.

The LNS is a laboratory research Ethernet network that consists of subnetworks (LNSx), including network hubs and cabling that connect and provide primary communication for several Windows, Macintosh, UNIX, and other types of computers (scientific workstations, database and file servers, client workstations, and host computers) and shared peripheral equipment. These systems (which do not typically conform to Agency desktop standards) require system specific support, which is very different from standard office desktop support.

The LNS is air-gapped; it is not connected to the PMN or to the Internet.

3b. General Contractor Requirements

The Contractor shall adhere to IMC policy and guidance to plan, purchase, install, upgrade, configure, and maintain IMC-LNS equipment, such as workstations, servers, network infrastructure, and the operating systems on these devices (both operating system applications and commercial off-the-shelf applications such as Microsoft Office) per written instructions, starting with the vendor's documentation, and including, but not limited to, websites. The Contractor shall test systems to assure proper operation in the EPA environment. The Contractor shall determine whether EPA systems are operating properly and debug them if they are not.

The Contractor shall also remove and follow NVFEL-established procedures to properly dispose of end-of-life IMC-LNS equipment.

LNS/LCS systems support shall be provided in a single daytime shift for all subtasks under Task 3. Where needed, test site support must be available evenings, weekends, and other off-hour periods, in order to avoid conflict with essential regulatory and confirmatory testing, and user access to these systems (e.g., system rebuilds and network testing) in support of testing. Where support is time-critical during normal business hours, notification to affected users must be made as soon as it becomes known.

3c. Test Site Support

Contractor support of all LNS systems shall ensure that laboratory testing sites are functional and users have full access to the LNS in the test sites. Contractor support for LNS test sites shall include the provision of Tier 1 and Tier 2 support for computer components that support testing within the test cells.

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This may include troubleshooting components such as IMC-LNS workstations, monitors, and printers, as well as networking issues. The Contractor shall also assist test cell technicians and other test site users with issues related to accessing applications hosted on the LNS, or if errors occur while certain transactions are in progress.

3d. LNS LAN Administration Support

The Contractor shall assist the EPA LNS LAN System Administrators in developing proactive procedures and identifying and implementing tools to manage and monitor the LNS and its servers and applications. With each task deliverable, the Contractor shall provide user, installation, and administration documentation.

The Contractor shall perform a mix of recurring and ad hoc assignments. Recurring (regularly scheduled) assignments include the operation, monitoring, troubleshooting, and maintenance of existing LCS/LNS systems. These systems include all computers, peripherals, hubs, and other network equipment connected to the LNS or the NVFEL test sites, plus stand-alone (not connected to LNS or test sites) laboratory systems. Additional, recurring assignments include installation and upgrades/modifications of LCS/LNS hardware, software (i.e., operating system (OS), applications, and monitoring tools), and peripherals (i.e., printers, plotters, scanners). Installation processes may include building the device OS from scratch and/or establishing an OS image that can be subsequently cloned onto additional devices of the same type. The Contractor shall maintain the established images and provide the images to the EPA upon request. Ad hoc projects assigned can be relatively simple (e.g., printer re-assignment, IP conversion) to complex, such as rewiring an entire area.

3e. LNS Procedures

The specific operating, monitoring, and maintenance procedures are documented in the LCS/LNS Procedures (Main) and Computer Operations Procedures (Subset) Binders. The procedures cover functions such as backup, restore, archive, power down, power up, restart, several monitoring, log activity, installation, troubleshooting, solving problems, etc. Under this Task Order, the Contractor shall execute these procedures to perform systems maintenance services.

The EPA anticipates that changes will be made to the procedures throughout the period of performance of this Task Order. These changes may be initiated by the Contractor, the IMC Director, or the EPA COR in the form of new, replacement, or annotated pages. The changes may be submitted in paper or electronic form. The Contractor shall propose, and upon EPA COR and the IMC Director's approval, implement changes to written maintenance procedures to correct problems or errors discovered while executing them. The Contractor shall test all procedures, including changed procedures, to ensure that systems operate reliably under the procedures.

All new and modified procedures shall be formally approved by the IMC Director and the EPA COR before the Contractor implements and tests the new or modified procedures. The EPA will maintain all documentation in the EPA-IMC designated system and keep an up-to-date physical copy of the procedures in the computer room.

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3f. LNS Help Desk Support

LCS/LNS services including problems and outages for systems maintained by the Contractor may be reported by any system user through the NVFEL Help Desk, called the Ann Arbor Helpline (AAHelpline). The AAHelpline functions as the first line of support for IMC-LNS machines and for LNS support. Requests to the AAHelpline are made via telephone or email. Alternatively, requests may be made directly to the EPA COR.

The EPA COR shall provide decision-tree direction on how and to whom the various categories of LNS service requests should be routed. The EPA will define an escalation process by which requests not acted upon (regardless of who has the action) are raised in priority for management attention (for example, to re-assign the task).

The EPA will use a Technical Support Request (TSR) process for complex LCS/LNS support services and obtain appropriate approvals before submitting such requests to the Contractor. The Contractor shall deliver back to the EPA COR a report on the status of those requests. All work under this task shall be logged and tracked by the Contractor in a change log system. Major changes shall be coordinated in advance with the COR.

3g. LNS Disaster Recovery and Backup Media Support

Under this SOW, the Contractor shall provide for an off-site storage facility to store LNS LAN data media (e.g., CD, DVD, Blu-Ray). This service is an EPA requirement when catastrophic events require restoration of data due to catastrophic events. The Contractor shall execute the Disaster Recovery Backup Tape Procedure established by the EPA.

On a daily basis, or as directed by the EPA COR, the Contractor shall provide full and incremental/differential backups to media, and all data sets that have been changed or added, on all designated LNS Windows, Linux, and Oracle servers. Backups will need to be performed on all LNS systems supported by IMC such as Servers, Interface Computers (IFCs), and Video Driver Aids (VDA). A detailed list of what needs to be backed up will be provided by the EPA COR or proposed by the Contractor for the IMC Director's approval.

The Contractor shall provide a report to the EPA COR when the information is changed. The Contractor shall restore data sets from media when requested by the EPA COR, IMC Director, EPA LAN System Administrator(s), or LNS users with EPA COR/IMC Director's approval. The Contractor shall verify and ensure the integrity and validity of backed-up data.

The Contractor shall provide a variety of backups to media as directed by the EPA COR and IMC Director, using EPA-IMC systems and tools, or tools proposed by the Contractor and approved by the EPA COR and IMC Director. The EPA COR or a designee of the IMC Director will coordinate emergency situations.

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The Contractor shall prepare monthly Media Volumes containing a full backup of each available server for off-site storage for the purpose of Disaster Recovery. The Contractor shall verify that backup media is delivered and received at the designated off-site storage location. The Contractor shall provide ancillary library functions, which include maintaining media as well as updating logs, as backup media are delivered to the designated delivery location.

The Contractor shall pack the weekly media in a designated security bin provided by a storage company proposed by the Contractor and approved by the EPA COR. The media will be picked up on Tuesday of each work week, during Federal work hours, between 9:00 a.m. and 3:00 p.m. The storage company will pick up the NVFEL's server backup media from the Ann Arbor location in the Lab building, and store them at an off-site location. In case of non-pick up by the storage company due to federal holiday(s), or special circumstances, the media will be delivered the next business day. Conversely, the Contractor shall transport the backup media to the backup storage safe located in the 306C computer room in the Lab building.

The Contractor shall maintain an EPA-approved database to track the media transport activities, which identifies the date of transport, name of tape sets transported, storage location of each tape set, and proof of delivery, or the Contractor shall propose for EPA approval a system to track the media transport activities. The Contractor shall provide weekly and monthly reports of the media transport activity to the EPA COR.

3h. LNS Server Administration

The Contractor shall perform IMC-LNS server system administration. The Contractor shall obtain EPA COR approval via e-mail in advance of attending any meetings with the LNS Technical Point of Contact(s) (TPOC).

The Contractor shall troubleshoot hardware and software, correct problems, contact vendors for solutions as needed, and rebuild systems. The Contractor shall follow up with vendors to track hardware/software items purchased and/or sent to vendors for repairs to ensure that these requirements are resolved by the vendor as agreed. The Contractor shall take the appropriate action in accordance with the EPA COR's technical direction and/or established LNS procedures, as appropriate.

The Contractor shall ensure that the servers operate using the latest EPA-approved OS and security patches and firmware versions. The Contractor shall install new hardware and software in accordance with the EPA-IMC policy, as required.

The Contractor shall label all servers and associated cables and employ best practices in cable/wire management. The Contractor shall perform regularly scheduled systems maintenance on the servers.

The Contractor shall perform daily operational system administration, i.e., maintaining user accounts, passwords, and permissions. The Contractor shall ensure that all administration tasks adhere to the EPA's security policy and standard operating procedures.

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The Contractor shall install and maintain anti-virus software, other administration related tools, and all other approved software packages, e.g., security related software on all the servers, as required, or as directed by the EPA COR.

The Contractor shall monitor and optimize the performance of all servers. The Contractor shall provide reports of these servers' performance when requested. The due dates for the reports will be determined by the EPA COR.

The Contractor shall develop, update, and maintain all server standard configuration documentation. The Contractor shall submit to the EPA COR documentation for newly built servers within five (5) business days of becoming operational. The Contractor shall log and enter into a journal all changes, upgrades, and modifications made to the servers.

The Contractor shall notify the EPA COR verbally and via email within thirty (30) minutes, in the event of IMC-LNS server inaccessibility. The Contractor shall also take immediate corrective action to bring the servers and services back online.

The Contractor shall provide support and maintain the Microsoft Active Directory (AD) Domain Controllers in LNS as requested and approved by the IMC Director.

3i. Scientific and Division-Specific Applications Support

The Contractor shall provide hardware and software support to the scientific community. The Contractor shall obtain approval from the EPA COR before meeting with any TPOC(s) regarding applications support.

The Contractor shall install and maintain scientific, division-specific, and Oracle-related applications on the IMC-LNS servers. The Contractor shall troubleshoot scientific, division-specific, and Oracle applications and resolve all related problems. The Contractor shall troubleshoot interoperability issues with other EPA-standard applications and resolve all related problems.

3j. Time Sync Infrastructure

Time synchronization is a critical component of networked systems and precise computing applications. Standard clock time is inherently inaccurate and takes on added complexity in a distributed system, in which several computers need to realize the same global time. At the NVFEL, a time sync provider is established, along with communications between the provider and the onsite master. Local systems are connected to the onsite master to provide time sync. The EPA currently has a time sync solution in place, but it will require continued support and maintenance of this solution. Services to be provided include management of the interface with the vendor, evaluation of new technologies, and solutions, as needed, to update and improve the system. The Contractor shall also work with the EPA to ensure that the solution implemented meets industry best practices.

Task 4. Voice and Video Telecommunications Support

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4a. VoIP Telephone Support

The Contractor shall install, relocate, and repair all NVFEL Voice over Internet Protocol (VoIP) telephone sets. The Contractor shall repair and test telephones that are currently in stock, performing minor repairs (e.g., replacing cords and keypads). If repairs cannot be made within one (1) business day, a written fault diagnosis shall be attached to the equipment and notification to the EPA COR shall take place. The Contractor shall ensure that the equipment is sent out for repair as directed and/or approved by the EPA COR.

The Contractor shall maintain and update the phone set designation codes to reflect current staff's locations and phone numbers in the event of an outgoing 911 emergency call. This shall be updated the same business day as the change is received. All moves, adds, and changes shall be transmitted to the Contractor, following EPA-approved processes, using an EPA-approved system. The Contractor shall perform any adds, moves, or changes that affect any given phone location on the same business day. This includes:

- 10-digit phone number
- Physical Address of building
- Name of Agency (EPA)
- Room number or cubicle number

The Contractor shall provide formal instructions and training, as specified by the EPA COR, to current or new VoIP system users. As directed by the EPA COR, annual follow-up training may be conducted for all staff in the Ann Arbor facilities. The EPA COR shall approve all training plans submitted by the Contractor.

The Contractor shall respond to all requests for assistance from staff on voice related troubles, diagnose the fault, and resolve the problem as required, by either replacing equipment, making programming changes, or providing additional user training. Problems that cannot be resolved shall be referred to the EPA COR for response by maintenance vendors.

For all activities, the Contractor shall document work accomplishments to include keeping records of telephone installation and relocations. The Contractor shall maintain an accurate inventory of all telephone equipment and its location.

4b. Wiring

The Contractor shall install, move, change, or remove any building telecommunications wiring, as requested. Using equipment provided by the EPA COR, the Contractor shall install and terminate fiber optic runs. The Contractor shall also install and maintain the facility's fiber, 10BaseT, 100BaseTX, 1000BaseTx, and all drops from the facility hubs through patch panels to each work station. Termination at the appropriate electronic device and complete end-to-end testing shall be performed. Records of the completed task and changes to the appropriate drawings shall be made by the Contractor.

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The Contractor shall install, relocate, and remove cable used to provide voice and data services to the NVFEL, as directed or approved by the EPA COR. The Contractor shall perform: LAN problem isolation, diagnosis, and repair; and installation, relocation, and removal of LAN cabling (observing the restrictions imposed by the Office Building owner, GSA, municipal codes, and Agency LAN policy). The Contractor shall also perform diagnosis and repair or replacement of LAN communications boards, modems, and other data communications equipment; and it shall provide technical, operational, and maintenance support to audio/visual systems (such as projector systems), video conferencing, and data communications systems.

More serious problems that cannot be resolved shall be referred to the EPA COR for further action.

4c. Wireless

The Contractor shall provide support for the EPA and authorized non-EPA wireless clients, including any designated wireless laptops. Support consists of installing/upgrading, configuring, and maintaining the wireless client software; installing and maintaining the Antivirus software, and upgrading the wireless clients' OS with the latest patches.

The Contractor shall install/upgrade and configure new and existing wireless Access Points (AP), AP Gateways (Hotspot devices), AP and Gateway firmware, software, and access server software.

The Contractor shall provide fixes/solutions for malfunctioning wireless devices or for software errors. The Contractor shall troubleshoot and provide fixes/solutions for the wireless users to ensure successful connections to the wireless network and/or wired resources.

The Contractor shall monitor the client connectivity and security of the Wireless LAN (WLAN). The Contractor shall monitor for, and report and take authorized actions, on rogue APs or wireless devices set up by unauthorized users.

4d. Service Requirements

All service requests shall be ordered through an EPA-defined process, which is typically the AAHelpline. All telephone work, including maintenance, shall be logged and tracked by the Contractor. Major changes shall be coordinated in advance with the EPA COR.

The Contractor shall propose changes to written maintenance procedures as necessary to correct problems or errors discovered while executing them.

4e. Service Response Time Requirements for Voice Services

<u>Service</u>	<u>Target Standard</u>
Telephone Trouble (not outage)	12 business hours
Dead Telephone	4 business hours

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Dead Priority* Telephone	2 business hours
Severe Priority** Service	Immediate Response
Relocate Telephone	Generally 3 business days, or as specified by Government beyond 3 business days
Install Telephone	Generally 3 business days, or as specified by Government beyond 3 business days
Conference Bridge Scheduling	Immediate or per the schedule specified by the COR

*Priority Service can be requested by a designated EPA Telephone Administrator when the situation warrants this type of activity.

** Severe Priority Service is normally used only when a severe telephone outage, defined as more than five (5) dead phones, is encountered. All other items do not fit into this category. The Contractor shall clean all maintained electronic devices covered by this Task Order (excluding equipment at end-users' workspaces) in accordance with manufacturers' recommendations, or more frequently, as needed, to include dust, smears, smudges, etc., on electronic monitors and display screens.

Task 5. Cabling Support

The Contractor shall install, uninstall, test, modify, enhance, and maintain all communications cabling to include single-mode and multi-mode fiber optic cables and switches within the NVFEL buildings. This includes termination at the appropriate electronic device, installation and removal of related termination and pathway hardware related to the cabling infrastructure, complete end-to-end testing (using equipment owned by the EPA), and recording of the completed task through the Change Request Logging System.

The Contractor shall have Building Industry Consulting Service International (BICSI) ITS Installer Level 1 and Level 2 certifications for performing any cabling work. The Contractor shall install 4-pair UTP cabling from designated offices or laboratories to the Intermediate Distribution Frame (IDF) closets in each building as required for maintaining system readiness, and termination of the UTP cabling in RJ45 receptacles in each office or laboratory. The Contractor shall ensure termination of the cabling in the Patch Panels in the IDF closets in each building. Specifications may change based on new technology or a Laboratory/Office changing its requirements. The Contractor shall complete the cable installation, punch down and complete testing within three (3) business days of receiving the work request. Cabling in the wiring closets shall be maintained in accordance with NIST standards. The Contractor shall install, terminate, and perform mechanical splicing, as well as fusion splicing, of single-mode and multi-mode fiber optic cables as needed. The Contractor shall install video coaxial cabling and related infrastructure hardware.

On a daily basis, the Contractor shall maintain wiring closets in a clean and professional manner, adhering to current industry best practices and BICSI recommendations. Proper cable management practices shall be used in all telecommunications closets, equipment racks, and cabling pathways. This includes ensuring that installed patch cables are properly color coded, the most appropriate length patch cables are used, all patch

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panels and equipment racks have neat and well-dressed appearances, and Laboratory, LAN, and production networks are not patched over to one another, as well as utilizing appropriate strain relief methods.

All cabling shall meet or exceed the ANSI/TIA/EIA-568A, ANSI/TIA/EIA-569-A, ANSI/TIA/EIA-606, and ANSI/TIA-EIA-607 standards. If any of these standards are updated or superseded during the performance of this Task Order, the Contractor shall be responsible for meeting the most current approved standard(s).

The Contractor shall track all related supply inventories (including tools, test equipment, and materials), ensure that supply inventories are maintained at adequate levels as defined by IMC, provide updated inventory lists to the EPA COR, and provide needed equipment and supplies lists to the EPA COR in a timely manner to ensure that the items can be ordered and restocked (either by the Contractor using ODCs or the EPA using Federal procurement processes, as determined by the EPA COR/CO in coordination with the Contractor) in a timely manner. The Contractor shall research parts and part numbers, and make recommendations, as needed to comply with this requirement, as well as for the other task areas of this SOW where replacement parts and expendable supplies are needed, such as data network equipment operation and maintenance, or conference room set-up and related equipment maintenance.

Task 6. NVFEL Service Desk Support

6a. Service Desk Support

The Contractor shall provide help desk support for by operating the NVFEL Help Desk, called the Ann Arbor Helpline (AAHelpline).

Requests to the AAHelpline are made via telephone or email. The AAHelpline shall function as the first line of support for the areas of Internet/Intranet support, Agency architecture support, desktop support for IMC-LNS machines, voice communications support, incidental cabling support, IMC equipment inventory database update support and conference room set-up support. The AAHelpline will also be used as the front-end to all NVFEL facilities requests, PMN Network Support, and LNS Network Support with Call Trees used to broker tickets. The Contractor shall also provide regular maintenance of all IMC-LNS plotters, in addition to maintaining IMC-LNS fax machines and scanners as part of service desk support. IMC-LNS printers and printer setup shall also be provided for Laboratory building printers only as part of service desk support. Support for PMN printers is provided by another contractor.

AAHelpline requests may also include support for software, hardware, network (both PMN and LNS) access and facility services from EPA grantees and other on-site Contractor staff. Finally, the AAHelpline will serve as the brokered location for all EZTech requests that require assistance from IMC staff.

In all cases, the Contractor shall create an action request ticket using an EPA approved ticket system within one (1) hour of receipt or before the close of business on the day received, whichever is sooner, attempt to resolve the problem or, as necessary, forward the ticket to the appropriate Contractor workgroup or EPA staff for resolution. Requests outside the scope of this SOW shall be forwarded to the

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EPA COR for resolution when it is not appropriate to broker the request to the EZTech Help Desk.

The Contractor shall use the EPA's Remedy system to log, describe, assign work tickets, and close out all service desk calls. The Contractor shall produce Remedy ad hoc reports, and scheduled reports as specified in Section IV: Deliverables. The Contractor shall ensure there is no duplicate reporting of requests. For example, the request to the AAHelpline itself is not counted, but the routing of the request to a particular technician is calculated in the reporting. The Contractor shall evaluate the types of calls, recommend areas of improvement, and identify specific improvement actions, as necessary.

The Contractor shall enter Internet Protocol (IP) registration requests into the Agency's database for approval within one (1) business day. The Contractor shall conduct technical site surveys to determine feasibility and technical approaches to resolve work requests.

The AAHelpline service shall be available to users each federal business day during the hours of 6 AM to 6 PM. At all other times, calls shall be forwarded to voice mail and retrieved at the start of the next AAHelpline service shift. Emergency facility calls will be routed to the NVFEL Guard Desk which is operational 24-hours a day, in accordance with routing procedures identified by the EPA COR.

The Contractor shall utilize statistics and customer satisfaction survey data, such as Remedy customer satisfaction surveys, to identify areas of strengths and weaknesses, and to recommend modifications and enhancements to work processes. The Contractor shall perform administrative tasks associated with the performance of the AAHelpline work. This shall include such tasks as interacting with staff regarding conference room reservations, compiling reports, and scheduling conference bridge use.

6b. Service Desk Severity Levels

Service Desk requests shall be responded to in accordance with the following severity levels:

Severity Level 1: More than 10 users affected by server outage, LAN/WAN outage, voicemail problems, telephone problems, or users requiring software assistance. The Contractor shall immediately begin work on the issue(s) and not cease the work until the issue(s) is resolved.

Severity Level 2: 3 to 6 users unable to work due to an outage or problem. The Contractor shall respond and resolve within two (2) hours, with priority response to Directors' offices and security guard stations.

Severity Level 3: 1 to 2 users having some form of IMC-LNS computer or telephone trouble which is preventing them from working. The Contractor shall respond and resolve the issue within eight (8) hours.

Severity Level 4: User is working, but waiting on new hardware/software, cable pulls, relocation of telephone, new telephone, reprogramming of telephone, or miscellaneous requests. If scheduled, the Contractor shall respond and resolve the issue within forty (40) business hours unless otherwise specified by the EPA COR. If unscheduled, and the need is immediate, the Contractor shall respond and resolve the issue within one (1) business day, if technically feasible.

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6c. Conference Room Set Up and Related Equipment Support

The Contractor shall perform daily maintenance/performance checks of all conference room phone, AV and VTC equipment to ensure continued readiness, prior to scheduling for use. This shall include ensuring all wireless equipment requiring the use of batteries, both rechargeable and non-rechargeable battery types, have a fresh charge prior to use at the beginning of the day of scheduled use. Supply of new non-rechargeable batteries shall be provided by the Government.

The Contractor shall receive requests for resource reservations in conference rooms via the AAHelpline. Additionally, the Contractor shall receive requests for voice conferencing, video conferencing, and satellite downlinks via the AAHelpline. All requests shall be referred to the appropriate technician for implementation. The Contractor shall confirm all conference room requests to ensure appropriate equipment set up and support.

The Contractor shall be required to log into each conference room computer prior to any conferences where a computer is required to verify that all computer patches have been applied, and to ensure that patching does not occur during a scheduled conference. The Contractor shall make a VTC test call as part of the conference room setup, when the VTC is requested. The EPA has a VTC test bridge set up for this purpose. The Contractor shall assist outside users in connecting to the Agency's network or logging on to the Government-owned PCs in the conference rooms when requested.

The Contractor shall assist customers with use of equipment and provide periodic training sessions, as requested, on the use of conference room equipment.

Occasionally, the Contractor shall be required to be present for the duration of certain high-profile events occurring in conference rooms to: ensure that all equipment functions correctly; to resolve problems, including connectivity issues, on the spot; and ensure that users have immediate assistance to correctly use the conference equipment. The exception would be if the conference event is an all-day or longer event, in which case the Contractor will be required to make, at a minimum, hourly visits to ensure that there are no equipment problems, or users needing conference related assistance.

During events where the Contractor's presence is not required for the duration, Contractor staff shall be immediately dispatched to the conference room anytime a conference is in progress and conference participants contact the AAHelpline with issues needing immediate resolution.

The Contractor shall install AV/VTC cabling in conference spaces as needed and as directed by the EPA COR. The Contractor shall adhere to IMC port security standards in the conference spaces, activating and deactivating data network ports as approved by IMC and as needed.

Task 7. Database Administrator (DBA) Support

The Contractor shall provide a database administrator (DBA) with Oracle experience to perform analysis, troubleshooting, installation, operations, and maintenance, and document preparation for Oracle RDBMS, SUN MySQL, and MS SQL databases and the Oracle Database appliance. Documentation

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includes configurations, operations procedures, standards, and diagrams of all supported systems. The Contractor shall provide tuning of Oracle databases for optimal performance. The Contractor shall maintain Oracle user accounts and permissions, and will adhere to all Oracle database management system (DBMS) security policy procedures.

The Contractor shall perform daily, incremental, and weekly full exports of the Oracle databases, in addition to the Oracle online backups, and operating system's cold backups. The Contractor shall verify the integrity of the regularly scheduled backups of all defined databases.

Task 8. IT Security Support

8a. IT Security Practices - General

The Contractor shall comply with IMC security guidelines and policies, the Federal Information Processing Standards (FIPS) published by NIST, the Agency's architecture roadmap and related implementation decisions, and EPA technical and operational standards as issued by the Agency's Office of Environmental Information (OEI). The Contractor shall perform and observe all NIST and Agency and Information Security Directives.

The Contractor shall provide IT Security support which shall include:

- Developing and executing a long-term plan for monitoring, assessing, and verifying security controls across NVFEL information systems to ensure information security survivability and integrity. This plan shall be, at a minimum, in compliance with the EPA's OEI Information Security procedures,
- Optimizing processes to meet IT security-related goals and strategies,
- Gap analysis on current IT security infrastructure,
- Virus detection, elimination, and prevention,
- Identification of software tools for responding to incidents/events,
- Identification of and reporting on each incident in the IMC change management system, along with the resolution taken,
- Security patches installation, as directed. The Contractor shall be aware of Agency Computer Incident Response Reporting Capability requirements, which will be provided to the Contractor after award, and
- Developing methods and media for communication and education, including relevant security awareness and training programs, to ensure the consistent application of security policy and procedures.

The Contractor shall ensure network security is implemented according to the EPA's OEI Information Security guidelines and policies on all network switches, manage user IDs and Access Control Lists (ACLs) for NVFEL network resources, and provide escorts for unauthorized personnel when accessing controlled access locations. When providing such escorts, the Contractor shall remain with escorted personnel while they are at the NVFEL.

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8b. IT Security Practices – Network Configuration Change Management

The Contractor shall ensure configuration management information and inventories are maintained and current for all NVFEL-managed network devices, per EPA direction, and as described in the NVFEL policies and procedures. This shall include ensuring that all approved software patches are installed on NVFEL-managed network devices (i.e., switches, PCs/laptops, printers, etc.)

The Contractor shall ensure all IMC Change Management Policies and Procedures (which will be provided to the Contractor after award) are followed, and all proposed changes to the network infrastructure are approved per IMC Change Management Policies and Procedures before they are implemented.

8c. IT Security Practices – Network Monitoring Support

The Contractor shall ensure all Agency IT audit settings are implemented on NVFEL network devices, and assist in the monitoring of the system security and event logs.

The Contractor shall implement a vulnerability testing and scanning process to assess the NVFEL's security posture using industry-recognized vulnerability scanning software (NVFEL uses NESSUS at this time) in accordance with EPA policy. The Contractor shall also provide technical responses to those vulnerability tests and scans, and provide technical responses to continuous monitoring scans conducted by Risk Assessment third parties. The responses shall include remediation of the vulnerabilities.

The Contractor shall also prepare a weekly report analyzing the results of the testing and scanning process and recommending remediation as appropriate. This report shall be shared weekly at a meeting led by the Contractor. Meeting invitees shall include the OAR Information System Security Officer (ISSO), the EPA COR, the PMN TPOCs and LNS TPOCs.

The Contractor shall ensure all new and updated software developed by Contractor staff is tested for security flaws and vulnerabilities according to Agency Security Testing policies and procedures.

8d. IT Security Practices – Accreditation and Investigative Event Support

The Contractor shall assist in annual certification, accreditation, risk assessment, and independent validation and verification processes required to pass IT risk assessment audits (for the PMN and, as directed, for the LNS). This support shall include, but not be limited to:

- Gathering and updating IT security information and documentation,
- Conducting security testing and assessing the PMN and LNS and their components to ensure compliance with current security guidelines and requirements,
- Keeping the Agency's designated information security database (currently Xacta) up to date for the PMN and the LNS, as directed by the EPA COR,
- Maintaining and providing reports on the status of all IT security materials and supporting

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- documentation in the NVFELs designated share drive(s),
- Sitting for interviews with auditors (internal and external),
- Proposing remediation to any IT security findings, and executing remediation upon EPA COR approval, and
- Any other functions needed to support the annual risk assessment audit process.

The Contractor shall also provide support to Agency CSIRC and Office of Inspector General (OIG) investigators during investigative events. The type of support provided will be within the types of tasks and duties described elsewhere within this SOW, and could include such things as disk images, data extraction, metrics collections, IP address and computer identifications, tape backups, etc.

8e. Service Response Time Requirements for IT Security Services:

<u>Service</u>	<u>Target Standard</u>
Critical CSIRC Alerts	Immediate Response or as specified by designated response date
Viruses	Immediate Response
Vulnerabilities Scans	Every 72 hours, per EPA policy
Remediation	Per EPA policy: 2 days to correct critical findings; 30 days to correct High findings; 60 days to correct Medium findings; 90 days to correct Low findings.

Task 9. Lotus Notes Database Administration Support

The EPA's Lotus Notes infrastructure is expected to be phased out by 2018. However, there are significant requirements for support and transition to a follow-on solution. The Contractor shall maintain and modify existing Lotus Notes databases to support ongoing operations. The Contractor shall provide Lotus Notes ID support (e.g., the Contractor shall be responsible for creation/deletion of user accounts, renaming user accounts, recertifying Notes ID files, password resets, and transfers to/from the NVFEL Lotus Notes Certifier). The Contractor shall also provide Tier 2 support for Lotus Notes, meaning it will be considered 2nd level support for the EZTech Contractor who supports Lotus Notes at the Tier 1 level. Tier 2 support will include troubleshooting issues that cannot be solved at the Tier 1 level.

The Contractor shall create/delete Lotus Notes mail-in databases per EPA direction. In addition, the Contractor shall manage the Notes Resource and Reservation database and resolve Replicate Save Conflicts in the Domino Directory with NVFEL employees only.

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Finally, the Contractor shall assist in identifying and implementing alternative solutions to migrate any NVFEL Lotus Notes databases not yet migrated and in performing final backup and archival for all sun-downed Lotus Notes databases.

Task 10. IMC Inventory Support

The Contractor shall conduct a physical inventory of the NVFEL IT equipment and software under IMC control annually, or semi-annually at the request of the EPA COR. A physical inventory shall also be conducted whenever there is an IMC Custodial Officer reassignment at the EPA COR's direction. As new IT inventory is purchased, the IMC Custodial Officer will provide information to the Contractor for use in updating the NVFEL IMC inventory database. The Contractor shall provide user access to the IMC inventory database to the EPA COR, IMC Custodial Officer, and other EPA federal staff upon request. The Contractor shall ensure federal staff are aware of new versions of the database, and how to access the database. In addition to the inventory performed in conjunction with the IMC Custodial Officer, the Contractor shall maintain and update an inventory list showing all equipment and software utilized by IMC under this Task Order and provide that information to EPA federal staff upon request.

The Contractor shall assist the Government in identifying and properly disposing of inventory items that have reached the end of their life cycle.

Task 11. Technical Writing and Communications

The Contractor shall establish, communicate, and maintain IT documentation. Per the EPA COR's direction, tasks may include but are not limited to:

- working with end users to analyze IT project requirements to determine the types of documents needed,
- collaborating with NVFEL staff to collect and interpret technical information in support of IT document creation,
- researching, evaluating, and recommending new documentation tools and methods,
- planning, designing, researching, writing, and editing a range of documents, including system documentation, user guides and self-help documentation (e.g., cheat sheets), status reports, project documents, training materials, user manuals, IT policies, processes and instructions related to the NVFEL's IT infrastructure, for both print and online media,
- editing IT written documentation to create unified and consistent support documents,
- establishing, communicating, and maintaining documentation standards, and
- providing IT technical writing training to NVFEL staff.

As directed by the EPA COR, the Contractor shall develop a documentation project plan and timeline to track progress on technical documentation projects.

Technical writing shall be performed in such a way that technical IT concepts are expressed in plain language that can be understood by the layperson.

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To inform this work, the Contractor may have to meet with vendors and/or EPA staff or NVFEL management to establish technical specifications in order to create documentation of IT processes, procedures, and/or technical communications.

Task 12. Software Development (Cost Reimbursement)

12a. Production Software Design and Development

As directed by the EPA COR, the Contractor shall work with NVFEL TPOCs on projects requiring the design and implementation of software development to include the following:

- Requirements definition,
- Application (including scientific) design and development (including coding, debugging, verification and testing) including but not limited to:
 - Java applications using a service-oriented architecture and web services where applicable,
 - Applications in a multi-platform environment, using object-oriented programming, with an understanding of Intranet/Internet architecture
- Application documentation, and
- Maintenance of software modules.

This task may require the Contractor to analyze, identify, design, and integrate unique solutions to sustain and improve end-user business processes or to consolidate existing systems. The use of EPA COR-facilitated sessions with the TPOCs and software application prototypes may be needed to support work under this task.

The Contractor may also need to perform scripting, as well as support. When necessary, the Contractor shall work with the TPOCs to automate network processes.

At the direction of the EPA COR, the Contractor shall assist in the development of business case documents in support of software design and development by providing feasibility and high-level business requirements analyses for existing systems or new requests and development cost estimates.

12b. Existing Production Software Application Services Support

The Contractor shall enhance and support existing NVFEL production applications. The Contractor shall:

- Monitor, maintain, enhance, and manage all existing business applications, and correct defects as they become known. The same software engineering best practices and techniques shall be used for application modifications as those used for new system development. All data and programming standards shall be used and consistently applied;
- Utilize an iterative development methodology for all work done under this task. The methodology shall allow end-users to examine the validity and accuracy of the business requirements and to

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respond to the usability and performance of new developments. End user testing and acceptance through the development cycle will detect usability issues, missing requirements, and any necessary design changes early in the process, allowing them to be put into place immediately.

- Develop, document, and adhere to effective and appropriate configuration management practices.

Task 13. Engineering/Solution Development Support (Cost Reimbursement)

The Contractor shall provide computer engineering services to the EPA, and support computer products and services. Examples include server cluster architecture, storage infrastructure architecture, network communication infrastructure, general IT architecture, network design, network engineering, PKI, wireless communications, telephony, VoIP, voicemail systems, call accounting systems, video teleconferencing capabilities, secure remote access capabilities, monitoring, reporting on activities and performance, capacity planning of network resources, and advising the IMC Director on recommended actions.

Network Engineering

As directed by the EPA COR, the Contractor shall work with NVFEL TPOCs on projects requiring network engineering services. Tasks may include, but are not limited to:

- supporting the EPA with the network infrastructure for all EPA data/voice/video communications efforts;
- providing final engineering designs for the network infrastructure, including security, engineer voice, video, and data integration for all data communications including the EPA campus and wide area network (WAN) requirements;
- providing technical support in resolving Tier 2 and Tier 3² network problems;
- upgrading, replacing, or augmenting IMC-LNS network hardware and software;
- leveraging Internet technologies to support EPA business functions; and
- establishing and/or supporting remote access capabilities.

Infrastructure Engineering

The Contractor shall support the EPA in the provision of a full range of IT infrastructure engineering design, enterprise architecture standards, prototyping, integration, including, but not limited to, concept development, planning, requirements definition and analysis, systems design, integration, and deployment.

IV. DELIVERABLES

General Requirements:

² Tier 2 requires advanced technical troubleshooting and analysis methods to provide assistance to Tier 1 personnel; Tier 3 technical support is the highest level of support and requires expert level troubleshooting and analysis methods.

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The Contractor shall provide performance measurements using graphics (i.e., dashboard indicators, graphs, charts, etc.) for each task and service under the SOW, unless the particular task does not avail itself to performance measurement tracking. Reports shall be required on a regular, ongoing basis (daily, weekly, monthly, semi-annual, and annual). The Contractor will be required to submit these performance measurement reports to the EPA COR as specified by this SOW or, as appropriate, upon request, throughout the Task Order period. The Contractor shall produce various ad hoc reports related to the various tasks and duties described within this SOW, such as metrics, measurements, status reports, etc., as requested by the EPA COR.

Throughout the life of this Task Order, the reports requirements may change. Some reports may no longer be required, or changes in report formats may be required, and some new reports related to the functionality and operations of the subject technologies may be required of the Contractor. Any changes to the reporting requirements shall be at the EPA COR's direction.

Specific Requirements:

A. ACTIVITIES

1. Agency Architecture Support

The Contractor shall perform the following:

- | | |
|---|------------------|
| a. Automated incremental tape backups | Nightly |
| b. Automated full backups with tapes stored offsite at disaster recovery location | Weekly |
| c. Virtual machine system performance metrics | Monthly |
| d. PC/laptop configuration documentation | Upon COR Request |
| e. Cabling and schematic diagrams | Upon COR Request |
| f. Status and configuration of documentation support servers | Annually |
| g. Conference Room set up | Daily |
| h. Preventative maintenance log | Monthly |

2. Servers

Daily (excluding weekends and holidays):

- The Contractor shall ensure servers are operating in optimal condition.
- The Contractor shall audit the logs for any errors using EventSentry, or other event monitoring system as determined by IMC.
- The Contractor shall monitor all system virus patterns from the SEP Console.
- The Contractor shall verify that all daily scripts on the server ran from the scheduled tasks menu.
- Automated Backup Status.

Every 72 hours: The Contractor shall run NESSUS vulnerability scans on both PMN and LNS equipment.

Weekly:

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- The Contractor shall run a defragmentation analysis with the Windows Tool. The Contractor shall schedule an off-hours defragmentation if there is excessive fragmentation shown.
- The Contractor shall run a disk cleanup to remove any unused temp files from the OS.
- The Contractor shall verify OS patches are current, and patch if necessary with reboots scheduled for off hours.

Monthly:

- The Contractor shall verify current firmware and driver versions, updating any that are known to resolve issues on the server.
- The Contractor shall check free space on the server and verify that there is enough space on the OS to page properly.
- The Contractor shall check the fan and power supply fan intakes and exhausts for any dust buildup, and clean them using canned air or compressor air.
- The Contractor shall verify that the motherboard/internals of the server are dust free, and clean them with canned air or compressor air if needed.

3. UPS

Monthly:

- The Contractor shall test UPS batteries by failing the input power to ensure they can switch to batteries.
- The Contractor shall check for excessive dust on UPS chassis and connections, and clean them with canned air or compressor air if needed.

4. Cisco Switches

Monthly:

- The Contractor shall check CISCO OS Rev and update to latest approved “Safe Harbor” version.
- The Contractor shall backup CISCO switch configurations.
- The Contractor shall clean the fan intakes and exhausts.

The Contractor shall document all preventative maintenance (PM) and forward that information to the designated IMC personnel (along with the monthly reports) in electronic spreadsheet format with the date of the PM and name of person who performed the PM.

5. Weekly Status Meeting: Scheduled on a date and time agreed to by the EPA COR and the Contractor Manager, to include a review of the weekly status update report.

6. Weekly NESSUS Scan and Change Log Report Meeting: Scheduled on a date and time agreed to by the EPA COR and the Contractor Manager. This weekly meeting shall be led by the Contractor and meeting invitees shall include the ISSO, EPA COR, PMN TPOCs, and LNS TPOCs. The meeting shall include a

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review of all vulnerability scan reports and the change log along with recommendations for remediation, as appropriate.

B. REPORTS

1. Ad Hoc

a. Meeting Minutes:

At the EPA COR's direction, the Contractor shall document, in writing, the results of meetings scheduled with the EPA COR and meetings with the EPA COR and IMC Management. Documentation shall include key highlights, decisions, and technical directives. Documentation shall be distributed via email to the EPA COR and IMC Management within three (3) business days of the subject meeting.

b. Upon EPA COR request:

- LNS Support – backup system changes to data sets
- New server documentation
- Server performance
- Lotus Notes/database problem reporting
- Hardware Inventory Database Updates

2. Regularly Scheduled

a. Weekly Status Report:

On the first business day of each week throughout the period of performance, the Contractor shall submit electronically to the EPA COR a weekly status update that includes the following information:

- The previous week's accomplishments,
- Completed actions, including number of conference room setups
- Actions in progress (with current status), including, but not limited to, unresolved service desk work requests, LNS tape transport activity,
- IT Security Risks, issues, and mitigations, including, but not limited to:
 - Results of PMN and LNS Security Vulnerability (Nessus) Scans
 - Security Patches performed
- Problems encountered, and
- Plans for the next week.

b. Monthly Status Reports:

- Agency Architecture Status of Systems
 - Performance Issues
 - Upgrades or actions needed
- Service Desk
 - Work Requests by Category
 - Preventative Maintenance Log
- Voice and Videoconferencing/Telecommunications Support

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- Number of phones installed
- Number of phones removed
- Equipment inventory status
- Phone traffic and utilization
- Telephone set service locations
- Telephone switch
- Conference bridge assistance by employee name
- Lotus Notes Administration Support
 - o Number of accounts created and deleted
 - o Number of Notes ID re-certifications
 - o Number of password resets
- Information Security/Disaster Recovery
 - o COOP laptops updated with current patches and batteries charged
 - o Inventory contents of backup tape vault by tape number and purpose
 - o Preventative maintenance performed
 - o Incident/Virus response
- Disk Storage Summary
 - o Level of hours used per date on the hard drives and how much left each day. Data on this report is used to make a line graph

c. Quarterly Reports

- Agency Architecture Support
- Equipment Warranty Status
- Cabling Documentation Update

d. Annual Report – Physical hardware Inventory Report

V. PLACE OF PERFORMANCE

Services shall be provided in support of the two buildings which comprise the EPA's NVFEL complex in Ann Arbor, Michigan. The Contractor will reside in the Office Building located at 2000 Traverwood, and services shall be provided both at the Office Building and the adjacent Laboratory Building, which is located at 2565 Plymouth Road.

In the event that a remote NVFEL COOP site is established, the Contractor shall provide on-site Contractor support as required. The Contractor would be responsible for all travel costs associated with visits to any remote COOP site.

VI. TOUR OF DUTY

Full and continuous on-site Contractor IT support for the PMN shall be required at the NVFEL five (5) days a week between the hours of 6 A.M. and 6 P.M.

Full and continuous on-site Contractor IT support for the LNS shall be required at the NVFEL five (5) days a week between the hours of 5 A.M. and 10 P.M.

As directed by the EPA COR, some off-business hours-work may be required due to network loading or

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other disruptions that could occur. Additionally, in the event of an emergency or operational crisis, the EPA may require extended Contractor support. See Section VII. of this SOW.

The regularly scheduled equipment maintenance window shall be Fridays from 8:00 P.M. to 12:00 A.M. Preventive maintenance outages, which are not the same as regularly scheduled equipment maintenance, shall be performed after hours on a pre-scheduled basis, which may or may not be during the Friday night equipment maintenance window.

VII. EMERGENCY SERVICES

The NVFEL may require coverage of specific tasks during emergencies. The emergency services required will be made by written request from the EPA COR. Response times will vary with each situation, but some may require Contractor response within four (4) hours.

VIII. CONTRACTOR PROGRAM MANAGER

Excluding advance scheduled vacation, illness, emergency, or Federal holidays, the Contractor's Program Manager (PM) shall be required to work onsite a minimum of forty (40) hours per week, eight (8) hours per day, during the core hours for IT support services (8:00 am to 4:30 pm). The Contractor PM shall physically work onsite; telecommuting is not an option. The Contractor shall notify the EPA COR, in writing, at least five (5) business days in advance, regarding any work schedule deviations, other than illness or emergency situations. The Contractor PM shall notify the EPA COR of illness or emergency situations as soon as practical. The notification shall include the name of an acting PM during this type of absence.

In addition to IT managerial experience and education, the Contractor PM shall be a technical expert in at least one major IT support area, such as IT security, network engineering, telecommunications, etc., and perform a permanent hands-on technical support role in support of this Task Order. Those duties are in addition to the individual's role as the Contractor PM.

The Contractor PM shall receive technical direction from the EPA COR, and the Alternate EPA COR, in the absence of the EPA COR. This includes direction for the reprioritization of assigned work.

The Contractor PM shall be required to attend scheduled meetings with the EPA COR, IMC management, and designated IMC staff members to discuss business related to the performance of the Task Order, and ongoing and upcoming work projects.

All assigned projects performed under this Task Order are considered work tasks within the scope of work requirements spelled out elsewhere in this SOW. The Contractor shall be required to track work tasks designated as projects in an Excel workbook, with one spreadsheet tab showing work items in progress, with milestones, task breakdowns into sub-tasks, due dates, etc., as well as an archive tab of completed items for permanent historical reference. This Excel document will serve as the meeting agenda at the

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weekly status update meeting with the EPA COR, and it shall be sent by the Contractor to the EPA COR by the close of business on the day prior to the scheduled meeting.

IX. TRAVEL

Agency conferences or Agency-mandated training may require travel. If Contractor attendance is required at EPA conferences or for mandatory training, the Contracting Officer shall request the Contractor to price the travel, and the Task Order will be modified to establish a fixed price for the required travel.

X. GOVERNMENT FURNISHED PROPERTY

The Government shall provide, at no cost to the Contractor, adequate working space including heat, light, ventilation, electrical current and outlets, furnishings (e.g., desks and chairs), telephone service (including long distance service) and standard office equipment, such as phones, and supplies for use by Contractor personnel in performing their official duties. This includes, but is not limited to, personal computers (i.e., desktop computers and/or laptops). The Government shall also provide all software necessary to perform the tasks identified in this SOW, unless otherwise specified within this SOW.

The Contractor shall be responsible for safeguarding all Government property provided for Contractor use. The Contractor shall also keep all work areas clean and safe.

XI. QUALITY ASSURANCE (QA) – QUALITY CONTROL (QC) PROGRAM

The Contractor shall implement a comprehensive and documented Quality Assurance (QA) – Quality Control (QC) program that addresses each of the tasks contained in this Task Order, such as described by ISO 9001. The Contractor shall provide ongoing quality assurance and control that ensures the quality of services and accuracy of deliverables specified in this Task Order.

XII. CONTINUITY OF OPERATIONS PLAN (COOP)

The COOP (Continuity of Operations Plan) provides guidance and procedures that allow EPA Ann Arbor operations to continue or rebuild essential operations in the aftermath of an emergency. This plan applies to the full spectrum of man-made, natural, or technological emergencies. The provisions of the COOP are applicable to all EPA personnel, contractors, and other federal personnel having duty stations within EPA facilities.

The primary reference for the COOP and similar activities within the Federal government is Presidential Executive Order 12656, Assignment of National Security Emergency Preparedness Responsibilities, November 18, 1988. Within EPA, Order 2030.1, December 20, 1996, directs these activities. Any related successive orders and directives will apply.

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APPENDICES:

Appendix A: Quality Assurance Surveillance Plan

Appendix B: Technical Staff Requirements

Appendix C: NVFEL IT Environment

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Quality Assurance Surveillance Plan

Task	Sub Task	Performance Standard	Acceptable Quality Level	Monitoring Method	Incentive (Positive/Negative)
1. Agency Architecture Support	LAN/WAN/VMWare - General	All work in this area shall conform to guidelines located at http://intranet.epa.gov/oei/imitpolicy/policies.htm#_ga=1.237936777.806215669.1441292922 - Contractor performs performance monitoring of systems. - IMC Assigned Network Leads are immediately notified of major performance issues.	Network is available for users 99.9% of the time between 6 a.m. and 6 p.m. Monday – Friday. Network equipment is up to date with patches and firmware. Network is monitored to defined IMC levels.	Total monthly server and switch uptime will be calculated by the IMC Network Administrator, by multiplying the number of business hours in the month by the number of servers and switches. Down time will be deducted from the total, and the percentage will then be calculated	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.)
	Installation/Removal of servers	All new servers are configured according to the Agency SCD (Standard Configuration Document) and IMC documented standards, including installation of all software patches and virus definition file(s) before they are connected to the network; Contractor to use the IMC change control system to document all account and permission changes.	Servers are available for users 99.9% of the time between 6 a.m. and 6 p.m. Monday – Friday. No misconfiguration from the SCD and the IMC standard, or failures to apply historical patches or current virus pattern files are allowed.	The ISSO or alternate will determine the status of this objective by reviewing monthly monitoring system reports, as well as reviewing network vulnerability scans on a daily and weekly basis.	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
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Agency Architecture Support (cont.)	User account management	Requests for user accounts or modifications to user access rights are completed within two business hours of receipt; Contractor to use the IMC change control system to document all account and permission changes. Includes providing a request record report summarizing requests and completions.	95% of all account requests must be completed within the standard.	The COR and/or IMC designee will review the work request records report to ensure the requests are completed within the standard.	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
	Physical/ Virtual server capacity and storage management	All servers and storage utilization are monitored continuously to ensure the servers have adequate processing, memory, and disk capacity (no more than 80% utilization without IMC written approval per incident) to ensure the servers remain operational. IMC Infrastructure monitoring system used/configured to track alerts and perform trend analysis on potential issues, including providing reports and ensuring dashboards are available to assigned IMC staff.	The servers must remain operational, without displaying problems related to constrained resources or disk space, 99.9% of the time during business hours, and with no more than 80% utilization of processing, memory or disk capacity without IMC written approval per incident.	The assigned IMC designee and/or the ISSO will review the VMware resource utilization reports provided, physical server logs, and server disk allocations to identify any issues/problems and related causes.	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
Task	Sub Task	Performance Standard	Acceptable Quality Level	Monitoring Method	Incentive (Positive/Negative)

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Agency Architecture Support (cont.)	Config/Change management	All configuration changes must follow OTAQ/NVFEL and EPA configuration/change management policies and procedures.	99.9% of all qualifying configuration/change management events must have an accompanying approved Config/Change Management form and written authorization.	The COR or other designated OTAQ/IMC federal staff member will reconcile all qualifying config/change management request with approved Config/Change Management forms.	A 1% penalty will be deducted from the monthly payment for non- compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
	Database server configuration	Install DB software and manage the underlying operating system to ensure the servers and databases remain operational.	The servers and databases must remain functional and operational 99.9% of the time during business hours.	IMC assigned staff (DBAs & CORs) will make note of any database downtime and calculate the uptime percentage by multiplying the number of database servers by the number of business hours in the month. IMC assigned staff will evaluate weekly and monthly reports provided on database server configurations.	A 1% penalty will be deducted from the monthly payment for non- compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
	IP address requests	Enter all IP address requests into the IMC defined system using the IMC approved process. Includes processing all request within four business hours of receipt, and providing a summary report to the IMC designee within 48 business hours of receiving the IP address.	99.9% of all IP requests need to be entered into the IMC-defined system using the IMC approved process within 4 business hours of receipt.	The IMC designee or ISSO will review all IP address requests processed using the summary reports provided by the Contractor, or other communications from the Contractor that a request has been processed.	A 1% penalty will be deducted from the monthly payment for non- compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).

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Agency Architecture Support (cont.)	Network port and patch cable request	Complete all network port and patch cable requests within two business hours of receipt, including entering the work in the IMC-defined change management system.	98% of all network port/patch cable requests shall be completed within two (2) business hours of receipt.	The IMC designee will review all network port/patch cable request start and finish times	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
	Cisco switch port security request	Complete all Cisco switch port security requests within three (3) business hours of receipt, includes updating the work in the IMC-defined change management system.	98% of all port security requests shall be completed three (3) business hours of receipt.	The IMC designee will review all network port/patch cable request start and finish times.	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
Task	Sub Task	Performance Standard	Acceptable Quality Level	Monitoring Method	Incentive (Positive/Negative)

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2. Desktop Support for IMC-LNS Workstations	Installation/Removal of LNS Workstations	All workstations are installed per IMC LNS Policy, and Procedures and appropriate notifications are made before and after installation/removal.	Workstations are available for users 99.9% of the time between 6 a.m. and 6 p.m. Monday – Friday.	Change System notifications to IMC Director and COR regarding installations/removals, and the number of valid complaints per month received by the COR with regard to availability of LNS workstations. A customer complaint will be determined to be valid if, upon investigation by the COR, it is determined that the complaint was due to non-compliance with LNS Workstation Deployment/Replacement Procedures. If the COR determines a complaint to be valid, the Contractor will be provided the opportunity to rebut the complaint, which would then be reviewed by COR again and, if necessary, by the CO.	<p>A 1% penalty will be deducted from the monthly payment for non-compliance.</p> <p>Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).</p>
Task	Sub Task	Performance Standard	Acceptable Quality Level	Monitoring Method	Incentive (Positive/Negative)

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3. LNS Services Support	Tape Backup Management	Tape backups are completed in accordance with the tape backup schedule established by this SOW. All tapes are labeled and transferred as required by the tape backup procedures.	Performance standard must be met 99% of the time	Tape backup reports will be reviewed by the ISSO for completeness. One tape vault log will be reviewed by the ISSO or his/her alternate on a monthly basis. All tapes in the vault must be identified in the log	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
	Update COOP/disaster recovery documents and processes to reflect corrections to deficiencies identified during any DR/COOP testing.	All corrections completed within 2 weeks of the completion of the test.	Performance standard must be met 90% of the time.	The IMC Director will track all required updates and calculate the percentage complete two weeks from the test date.	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
Task	Sub Task	Performance Standard	Acceptable Quality Level	Monitoring Method	Incentive (Positive/Negative)

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4. Voice and Video Telecommunications Support	Install, relocate, remove telephone sets, change features, document all service locations, perform minor equipment repairs when feasible, coordinate repairs with outside vendors when directed; provide voicemail system support, and support for voice and VTC, cable TV, and satellite downlink. Provide telephone switch preventive maintenance, repairs, and upgrades. 911 system is updated as changes occur.	All staff is provided with working telephones as assigned, with the exception of telephone troubles and outages. All service locations are documented. The Contractor handles telecommunications systems administration, routine preventative maintenance, and repairs. Maintenance records need to be complete, timely filed, and accessible to EPA staff. Outages are immediately reported to the COR and IMC Management. All requests are handled within the specified response times. Customer training on operation of the various devices is provided when required. Technicians have authorized training vendors' certifications and BICSI cable installers' certifications for performing required tasks.	Repairs/changes are handled with minimal disruption. The phone and voicemail systems are operational no less than 99.9% of the time. Equipment setup meets user specified requirements. Station Identification Designation Code (DES) is 100% current at all times. Response Times Compliance: •Telephone Troubles – 95% of the time. •Dead Telephone – 95% of the time. •Dead Priority Telephone – 98% of the time. •Severe Priority Service – 98% of the time. •Relocate Telephone – 95% of the time. •Install Telephone – 95% of the time. •Conference Bridge Scheduling – 99% of the time. •Voice Mail Change – 98% of the time.	Periodic and sporadic review of work request ticket records by the COR. Tracking of customer complaints by COR. Telecommunications systems documentation will be reviewed on a monthly schedule to ensure it is current, complete, and accurate. Maintenance records will be examined periodically to ensure that proper routine preventative maintenance guidelines are followed.	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
Task	Sub Task	Performance Standard	Acceptable Quality Level	Monitoring Method	Incentive (Positive/Negative)

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5. Cabling Support	Contractor shall install, test, enhance, remove, and maintain communications cabling and cabling support equipment.	All work complies with IMC standards and IT industry standards.	Requests for cabling shall be completed within one business day of receipt of work request – 98% of the time.	IMC designee or COR will review completed work utilizing change management reports and customer feedback.	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
	Contractor shall maintain wiring closets in a clean and professional manner, ensuring proper cable management adheres to current industry standards, in all telecommunications closets, equipment racks, and cabling pathways. This includes making sure that installed patch cables are properly color coded, the most appropriate length patch cables are used, all patch panels and equipment racks have a neat and well-dressed appearance, and the production networks are not patched over to one another, as well as utilizing appropriate strain on the patch cables when possible.	All work complies with IMC and industry standards.	No more than two valid complaints concerning the Contractor's failure to adhere to any of these requirements are received by the COR within a one-month period. A customer complaint will be determined to be valid if, upon investigation by the COR, it is determined that the complaint was due to non-compliance with the requirements of this SOW. If the COR determines a complaint to be valid, the Contractor will be provided the opportunity to rebut the complaint, which would then be reviewed by the COR again, and, if necessary, by the CO.	EPA COR, EPA Telecom Specialist, or Information Technology Specialist will review completed work.	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
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6. NVFEL Service Desk Support	Service Desk Support	Analyze, resolve and satisfy user requirements for IT systems and support as detailed in the SOW. Service desk staff shall enter the information into the Work Request System (WRS) and route each service request to the appropriate support area within 2 hours of receipt.	<p>No more than two (2) valid complaints per month are received by the COR.</p> <p>A customer complaint will be determined to be valid if, upon investigation by the EPA COR, it is determined that the complaint was due to non-compliance with the requirements of this SOW. If the EPA COR determines a complaint to be valid, the Contractor will be provided the opportunity to rebut the complaint, which would then be reviewed by the EPA COR again and, if necessary, by the CO.</p>	Tracking of customer complaints will be conducted by the EPA COR through periodic and sporadic review of work request ticket records.	<p>A 1% penalty will be deducted from the monthly payment for non-compliance.</p> <p>Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).</p>
	Conference Room Set up and Related Equipment Maintenance	Set up computer and audiovisual (AV) equipment upon request in NVFEL conference rooms. This shall include assisting customers with use of equipment and providing user training on the use of conference room equipment. Perform daily maintenance/performance checks of all conference room telephone equipment, PCs, as well as AV and VTC equipment to ensure readiness, prior to scheduling for use. Verify that all PC patches have been applied, while also ensuring that patching does not occur during a scheduled conference.	<p>No more than two (2) valid complaints concerning the failure to adhere to any of these requirements are received by the EPA COR in any one month period. A customer complaint will be determined to be valid if, upon investigation by the EPA COR, it is determined by the EPA COR that the complaint was due to non-compliance with the requirements of this SOW.</p> <p>If the EPA COR determines a complaint to be valid, the Contractor will be provided the opportunity to rebut the complaint, which would then be reviewed by the EPA COR again and, if necessary, by the CO.</p>	Tracking of customer complaints by the EPA COR, as well as periodic and sporadic customer satisfaction surveys.	<p>A 1% penalty will be deducted from the monthly payment for non-compliance.</p> <p>Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.)</p>
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7. Database Administrator Support	Contractor to perform daily, incremental, and weekly full exports of Oracle databases and online backups, as well as OS cold backups. Contractor to verify integrity of regularly scheduled backups of all defined databases.	Oracle DBMS security policy procedures.	Oracle DBMS security policy procedures are followed 99% of the time.	COR and IMC Oracle DBA will review completed work.	A 1% penalty will be deducted from the monthly payment for non- compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
	Contractor to perform analysis, troubleshooting, installation, operations, maintenance, and documentation for Oracle RDBMS, SUN MySQL, MS SQL databases and Oracle Database appliance.	Oracle DBMS security policy procedures.	Oracle DBMS security policy procedures are followed 99% of the time.	EPA COR and IMC Oracle DBA will review completed work.	A 1% penalty will be deducted from the monthly payment for non- compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
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8. IT Security Support	Service Response Time Requirements for Security Services: IT System & Network security is maintained to the latest version of NIST 800-53, minimizing the risk to IMC systems by preventing and correcting vulnerabilities before they can be exploited.	Standards for completeness are defined in SOW and EPA CIO policy: Service Response Times: •CSIRC Alert – Immediate Response or as specified by response date. •Virus Notification – Immediate. •Vulnerability scan – every 72 hours •Remediation – In accordance with EPA CIO policy as specified in the SOW: Depending on risk level and rating (assumes false positives are validated): Critical – 2 days High -30 days Medium – 60 days Low – 90 days.	The acceptable level of performance for all standards is 99%.	Weekly IMC reporting by contractor to ISSO or IMC designee, includes briefings on Critical, High and Medium ratings. Also includes other forms of reporting and observing, such as CSIRC Alert response, BigFix, and other EPA report systems.	A 1% penalty will be deducted from the monthly payment for non- compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
	Follow IMC change/configuration management policies and procedures for relevant events.	All change/configuration management events identified in IMC policies and procedures shall have a change management request form completed and approved prior to implementation.	98% of the time.	The designated IMC staff member will review the monthly work requests for qualifying change/config management requests and compare this with the approved change/config management forms.	A 1% penalty will be deducted from the monthly payment for non- compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
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IT Security Support (cont.)	All Agency information security directives are observed to ensure protection and patching are completed within allotted timeframes.	All work done in this area conforms to IMC policy and guidance.	IMC policy and guidance is followed 100% of the time.	The IMC ISSO, the EPA COR, and the Information Security Team shall review compliance of security measures, including observations from customers and external security partners (OEI & 3rd Party Vendors working on behalf of the EPA).	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
9. Lotus Notes Database Administration Support		Lotus Notes account management is conducted. Lotus Notes application databases are supported.	Account requests are completed as received.	No valid customer complaints are received that are under the Contractor's control.	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
Task	Sub Task	Performance Standard	Acceptable Quality Level	Monitoring Method	Incentive (Positive/Negative)

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10. IMC Inventory Support	IMC Physical Inventory is conducted annually as directed by the COR with the IMC Custodial Officer.	Annual inventory must be completed with the IMC property custodian within 90 days of notification.	100% compliance to the standard is required.	The IMC Property Custodian will initiate a request for inventory when the OTAQ NVFEL Custodial Officer initiates the process. The Custodial Officer will provide details of the start and finish date to the EPA COR.	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
	Hardware adds/deletes/moves are noted in the designated IMC inventory DB.	IMC inventory updates must be completed no later than two (2) business days after receipt of information.	The Contractor shall automatically update IMC inventory databases when it is responsible for the equipment, such as installs and upgrades. Other equipment will be input as information is received from the EPA COR.	The EPA COR or other designated NVFEL federal staff member will conduct random reviews/inventories to verify the accuracy of the IMC inventory.	A 1% penalty will be deducted from the monthly payment for non-compliance. Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.).
Task	Sub Task	Performance Standard	Acceptable Quality Level	Monitoring Method	Incentive (Positive/Negative)

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11. Technical Writing	Contractor provides IT documentation support: Contractor establishes, communicates, and maintains IMC IT documentation per this SOW.	IT documents are written in plain language that can be understood by the layperson. Technical documentation is consistent with IMC Policy.	<p>All systems must be documented, and documentation must be updated using the IMC Knowledge base.</p> <p>No more than two (2) valid complaints concerning the failure to adhere to the requirements under this SOW are received by the EPA COR in any one month period. A customer complaint will be determined to be valid if, upon investigation by the EPA COR, it is determined by the EPA COR that the complaint was due to non-compliance with the requirements of this SOW.</p> <p>If the EPA COR determines a complaint to be valid, the Contractor will be provided the opportunity to rebut the complaint, which would then be reviewed by the EPA COR again and, if necessary, by the CO.</p>	Formal review of deliverables will be performed by the EPA COR and acceptance of work under this task will be accomplished via written approval from the EPA COR.	<p>A 1% penalty will be deducted from the monthly payment for non-compliance.</p> <p>Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.)</p>
12. Software Development (Cost-Reimbursement)		Delivery of services and deliverables complies with Agency and industry standards and is in accordance with EPA-approved schedules.	<p>Deliverables meet customer requirements, and work is accomplished in a timely manner.</p> <p>Contractor monitors, tracks, and accurately reports level of effort, labor costs, other direct costs and fee expenditures to EPA through monthly progress reports.</p> <p>Any issue adversely affecting schedules, cost, time or quality is brought to the attention of the EPA COR within 5 business days of occurrence.</p> <p>Contractor assigns appropriately skilled personnel to projects under this task, practices and ensures time management, and ensures accurate and appropriate time keeping.</p>	Formal review of deliverables will be performed by the EPA COR and acceptance of work under this task will be accomplished via written approval from the EPA COR.	<p>A 1% penalty will be deducted from the monthly payment for non-compliance.</p> <p>Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.)</p>
Task	Sub Task	Performance Standard	Acceptable Quality Level	Monitoring Method	Incentive (Positive/Negative)

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13. Engineering/Solution Development (Cost Reimbursement)		<p>Delivery of services and deliverables complies with Agency and industry standards and is in accordance with EPA-approved schedules.</p>	<p>Deliverables meet customer requirements, and work is accomplished in a timely manner.</p> <p>Contractor monitors, tracks, and accurately reports level-of-effort, labor costs, other direct costs, and fee expenditures to EPA through monthly progress reports.</p> <p>Any issue adversely affecting schedules, cost, time or quality is brought to the attention of the EPA COR within 5 business days of occurrence.</p> <p>Contractor assigns appropriately skilled personnel to projects under this task, practices and ensures time management, and ensures accurate and appropriate time keeping.</p>	<p>Formal review of deliverables will be performed by the EPA COR and acceptance of work under this task will be accomplished via written approval from the EPA COR.</p>	<p>A 1% penalty will be deducted from the monthly payment for non-compliance.</p> <p>Note: Events or occurrences that are out of the Contractor's control will not be held against it when calculating the acceptable quality (i.e., delays in problem resolution caused by the slow or non-response of vendor support, unavailability of government funds, etc.)</p>
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Multiple instances of non-compliance could result in multiple 1% deductions, not to exceed a total of 5% in deductions for that Performance Requirement area. Multiple instances of non-compliance in more than one Task area of the Quality Assurance Surveillance Plan could result in multiple 1% deductions, not to exceed a total of 10% in deductions overall.

APPENDIX B

Technical Staff Requirements

This Task Order requires a variety of proven technical skills. The Contractor shall provide staff that have experience and demonstrate skills in the following areas:

NOTE: The Program Manager (Key Person) requirements are identified in Section VIII of the Statement of Work.

Active Directory Computer/Network Administration and Security – Support personnel must have taken a Microsoft Windows Active Directory 20/20 course and be able to administer an Active Directory environment. They must be able to configure domain level security policies, configure login authentication parameters, and configure security auditing. Technician must be able to create, and configure user accounts, groups, printers, and network shares/folders on a Windows Active Directory environment.

Data Network – Support Personnel should have taken applicable vendor training and must be able to configure, support, and troubleshoot all aspects of layer 1 (data cabling) and layer 2 (switching) of a TCP/IP network. Technician should have experience with Cisco and Cabletron/Enterasys switching equipment.

Network Systems Administrators – Must have at least 3 years of LAN Administrative work experience.

- They must possess the skills necessary to install and maintain Microsoft, Unix/Linux based web servers, and terminal servers.
- They must have functional knowledge in the installation, configuration, troubleshooting, and management of Cisco hardware.
- They shall possess functional knowledge (installation, configuration, and operation) of all network operating systems (Microsoft Windows, Linux, and VMWare) and the security mechanisms employed by these operating systems.
- They must have work experience and the ability to identify (using tools such as Event Sentry) and diagnose systems (O/S, applications, hacks, etc.), security issues, communicate changes required per site processes, and implement the changes with minimal impact to the user community.

Microsoft Windows Servers Administration Support – Support personnel must have taken vendor Microsoft Windows Server Administration classes and have at least three (3) years of demonstrated experience in administering a Microsoft Windows 2008/2012 (32 and 64-bit) server-networked environment consisting of 10 or more servers operating a variety of networked applications. Work experience shall demonstrate the ability to install, configure, troubleshoot, and identify ambiguities, and secure the servers.

System Backup and Disaster Recovery – Personnel must have the ability to perform backups, restores, and

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troubleshoot problems using Symantec Backup Exec, Acronis, and Windows backup systems on tape, DVD-RW, CD-RW, diskette, and network volumes. Technician needs to have experience with backup and restores on the Windows, Dos, UNIX, and Linux operating systems.

Lotus Notes Administration Support – Personnel must be qualified, by having taken the vendor training for Lotus Domino Administration courses and have at least one (1) year of experience. Personnel must be able to perform routine tasks like creating accounts, but must also be able to perform more complex work such as troubleshooting what might be going on with the Lotus Notes-user environment.

Computer Software/Hardware Support – Personnel must have the ability to install all commercial off-the-shelf (COTS) software and be able to troubleshoot issue with installation. Personnel must have the ability to install and support all aspects of computer hardware, such as hard drives, external media, fans, power supplies, controllers, system boards, processors, and memory.

Printers/Fax Machine/Scanner Support – Personnel must be able to troubleshoot and correct basic problems for various printers, fax machines, and network scanners. Technician must also be able to replace toners and drum kits as required.

Operating System Installation and Support – Personnel must have the ability to install, diagnose, repair, patch, and support various operating systems (Windows and all flavors of Linux). Personnel must have the ability to create and distribute a standard image for new computers using Acronis.

Application Installation and Support – Personnel must have the ability to install and support various Windows based software applications and distribute them from the network when appropriate.

Documentation – Personnel must be able to synthesize information from various sources to create and maintain documentation for standard operating, installation, and maintenance procedures in an efficient manner for future retrieval. Technician must be able to evaluate effectiveness of documentation and convey information in non-technical terms.

Wiring Support – Support personnel must have had official training and be able to show the ability to install, test and terminate network/telephone cable. Installations may require person(s) to use ladders, aerial lifts (must be certified in the safe operation of) and other means to install cables in areas in excess of 75 feet. Installers must have the ability to terminate cables on a variety of jacks, panels and terminal blocks. Technician must be able to use various test equipment to verify cable installation is as needed/required. Technician(s) must be able to draft and maintain “as built” diagrams showing the installed wiring.

Fiber Optics – Support personnel must have had any applicable training and be able to install fiber (per industry standards), and terminate it on a variety of connectors. The technician(s) should be able to test fiber per industry standards.

Telecommunication Equipment – The Contractor shall provide qualified technician(s) able to program and troubleshoot with a fiber remote cabinet. Technician(s) must be able to program and install the following types of phones: Avaya, 2500, 2008, 2116, 3904, and 3905, as well as ring down circuits. Technician(s)

must be able to program ACD, Ran Announcers, and Audio Bridge equipment. Technician(s) need to have the ability to install and/or troubleshoot ISDN-PRI, Local CO, and emergency transfer equipment.

Video Conferencing Units – Personnel must have the ability to troubleshoot and instruct users on the operation of Tandberg and Polycom and FX video units or their equivalent. They must also be familiar with how to hook up and run different types of ancillary equipment to these units.

LCD Projectors – Personnel must be able to operate fixed and movable Sony and Toshiba type LCD projectors and be able to interface them with computers, laptops, and VCRs. Personnel must have the ability to troubleshoot various problems on these types of LCD projectors as they arise.

Database Administration Support – Personnel must have at least three (3) years of Oracle (10g or higher) database, SUN MySQL, MS SQL skill and experience, including analysis, troubleshooting, installation, operations, maintenance, and documentation.

Wireless LAN (WLAN) Support – Support personnel must have had applicable training and at least two (2) years of wireless network administration experience and hands on knowledge/experience in managing, implementing, and securing Wireless Networks. He/she shall have Cisco Certified Network Associate (CCNA) certification, Cisco Wireless LAN Support Specialist certification, or Cisco Certified Network Professional (CCNP) certification, when required by EPA.

Virtual Server Administration – Personnel must have the ability to install EsXi and manage virtual operating systems under that infrastructure.

Antivirus Administration Support – Personnel must have experience with Antivirus software installation and support on an Enterprise level.

DSL Support – Personnel must have experience with managing DSL connections to sufficiently monitor traffic and usage on an Enterprise level.

Help Desk Support – Personnel must have experience as Help Desk personnel to sufficiently support users utilizing the Help Desk.

Encryption Software Support – Personnel must have experience with installing and supporting encryption software on an Enterprise level.

Disaster Recovery Support – Personnel must have the knowledge and skills to support Disaster Recovery efforts.

IT Security Support – Personnel must have experience in determining and implementing Agency information security standards and procedures and ensuring that all Agency information systems are functional and secure. Experience in Federal risk assessment and documentation processes and procedures is required.

APPENDIX C

NVFEL IT Environment

NOTE: The information provided on the EPAs Ann Arbor IT environment is an approximation of the number of devices, users, and equipment to be supported.

Program Management Network (PMN) Environment

General

- The PMN is physically housed in two buildings located adjacent to one another: 2000 Traverwood Drive and 2565 Plymouth Road, Ann Arbor, Michigan, 48105. The Traverwood Road location is known as the Office building, and the Plymouth Road location is known as the Lab Building. Both buildings are occupied by federal and contractor personnel who work for OTAQ.
- TATD's IMC staff provide both operations and maintenance as well as technical support for the PMN.
- The PMN provides users with network access to local resources, in addition to the Agency's network and Internet/EPA Intranet access. The PMN also provides network security and allows for storage of information generated by end users.
- OTAQ staff and contractors can access the PMN via both physical Local Area Network (LAN) connections and remote access to the computing and network resources and systems.
- The applications on the PMN include a suite of office automation software and tools. These applications comprise the Agency standard and approved desktop applications. They include, but are not limited to: Microsoft Office Suite, Adobe Acrobat, Symantec Endpoint Protection, and other Agency applications such as PeoplePlus. The information processed includes the following:
 - General information in office automation
 - Documents classified as federal records
 - Contract management information
 - Confidential Business Information (CBI) enforcement data
 - Budget information
 - Personnel information, not including personally-identifiable information
 - Emissions regulation development
 - Vehicle and engine testing
- The PMN has a connection to the LNS (a standalone isolated system) via a LAN. TATD performs a manual process to exchange test data results between the PMN and the LNS using an exchange process with removable media to ensure the networks remain disconnected throughout the process.
- There are 8 Wiring closets; Closets are linked to the core via dual redundant fiber links.
- There are approximately 450 users of the PMN. Types of users include novice end users, power users, and network administrators.

PMN Switches

All switches are secured in locked and environmentally controlled closets and include the following:

- 1 core switch and a server farm switch
- 12 Cisco switches
- 1 WAN router

PMN Servers

There are approximately 30 file/application servers with various operating systems or applications installed, as shown by the following list:

- 1 Filemaker Pro server (Virtual)
- 1 Lotus Notes application server (Virtual)
- 1 Centralized Backup server (Symantec Backup Exec) running with a fiber-based tape library
- 1 Red Hat Linux Web server for the Nagios (Virtual)
- 1 Windows IIS server for the OTAQ Intranet (Virtual)
- 1 Barracuda web application firewall to protect the IIS web-server (Virtual)
- 1 Nessus vulnerability scan server (Virtual)
- 8 VMware EsXi hypervisor installed and supporting Windows, Red Hat Linux, and Linux guest operating systems
- Oracle and SQL databases (Virtual)
- Numerous physical Windows servers
- Numerous virtual Windows servers running Windows 2008R2/Windows 2012R2

PMN Workstations

- 500 EZTech client workstations
- 60 EZTech scientific data analysis workstations

PMN Servers are interconnected with the EPA backbone for mainframe and Internet/Intranet access. The workstations are connected by 10/100/1000 Base-T Cisco switches which run the Cisco-compatible routing services software and route TCP/IP protocols.

Laboratory Network System (LNS) Environment

General

- The LNS is physically located in the EPA's NVFEL Lab building at 2565 Plymouth Road, Ann Arbor, Michigan. The Lab building is staffed with EPA employees and contractors.
- The LNS is a General Support System (GSS) that provides computing and network resources to engine and vehicle test cells and users.
- All LNS workstations and servers are physically located in the Lab building. LNS workstations are non-EZTech workstations.
- The computer room in the Lab building is highly secured, monitored and environmentally controlled.
- The LNS has both Active Directory (AD) and non-AD servers providing the current network operating system and file server environment.
- The LNS is neither connected to any external EPA network nor connected to the Internet/Intranet. The LNS is connected via switches to vehicle and engine emissions test sites within the NVFEL Lab building. The switches provide test isolation, assuring the operation of one site in no way interferes with the operation of the other test sites.
- There are 6 wiring closets.
- There are approximately 75 LNS users.

LNS Switches

- 45 Cisco switches

LNS Servers

Production LNS servers are located in the computer room, 306B, and an access-controlled closet in Room 330.

- 55 active Windows servers (2008, and 2012, and VMWARE ESXi)

LNS Workstations (Non-EZTech machines)

- 375 workstations (Windows)
- 125 laptops

Printers

- 20 LNS printers